

# White Paper Report

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Application Number: HD5127611

Project Director: Anne Balsamo (balsamoa@newschool.edu)

Institution: University of Southern California

Reporting Period: 4/1/2011-8/31/2012

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# **Final Performance Report**

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Proposal for the National Endowment for the Humanities  
Digital Start-Up Grant  
Level II

**An interactive tangible tabletop device for  
Browsing images of The AIDS Memorial Quilt**  
(HD-51276-11)

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**End of Grant REPORT**

July 1, 2012

## **LIST OF PARTICIPANTS**

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## History of the project and Start-Up phase results

The **AIDS Memorial Quilt** is a unique work of international ARTS ACTIVISM that reflects the worldwide scope and personal impact of the AIDS pandemic.

- The textile **Quilt** is composed of **48,000 individual PANELS** that commemorate more than **91,000 NAMES**.
- The size of the physical **Quilt** measures more than **1.3 million square feet**. If laid out in its entirety, it would cover more than **29 acres** of land.
- It would take a visitor more than **33 days** to view every panel—spending only **1 minute at each panel**.
- It is the largest LIVING MEMORIAL of its kind in the world.



Image 1: Sections of the AIDS Memorial Quilt laid out on the National Mall in Washington D.C. during the Smithsonian Folklife Festival 2012.

The year 2012 marked the 25th anniversary of the creation of the Quilt. From June through the end of July, 2012, the Quilt was featured at the Smithsonian Folklife Festival and on the National Mall in Washington D.C. for the **first time since 1996**. This display of the Quilt coincided with the XIX International AIDS Conference (July 22-27). These events were part of the [Quilt 2012](#) program sponsored by the **NAMES Project Foundation**—the non-profit organization that maintains and displays the Quilt. More than **1 million people** viewed panels of the AIDS Memorial Quilt during the month of July at various venues in D.C.

As was proposed in the 2010 NEH Digital Start-Up Grant titled “Design of an Interactive Tabletop Device for Humanities Exhibitions” (HD-51276-11), Anne Balsamo, Dale MacDonald, and a small team based at the University of Southern California collaborated with the NAMES Project Foundation to create a unique “public interactive” that was installed at several venues

during the QUILT 2012 events in Washington D.C. The **AIDS Quilt Touch Table** is an interactive browser that allows visitors to view, zoom and pan across a collection of digital images of 48,000 Quilt panels (see Appendix 1). The installation made use of four interactive tables donated by Microsoft Research (Samsung SUR-40 with Microsoft PixelSense).

The following objectives guided the Start-Up project:

- Use of appropriate digital technologies that enhance and augment the PERSONAL and EMBODIED experience of viewing the textile Quilt;
- Raise awareness about the multiple STORIES of the Quilt panels;
- Assist people in viewing a SPECIFIC panel;
- Assist in the ANNOTATION of the Quilt through the creation of tags and the collection of additional memorial materials;
- Raise awareness about the ARCHIVING needs for the textile QUILT;
- Communicate the cultural importance of this work of INTERNATIONAL CULTURAL HERITAGE;
- Raise awareness about the contemporary status of AIDS in an international context;
- Promote the QUILT as a LIVING MEMORIAL.

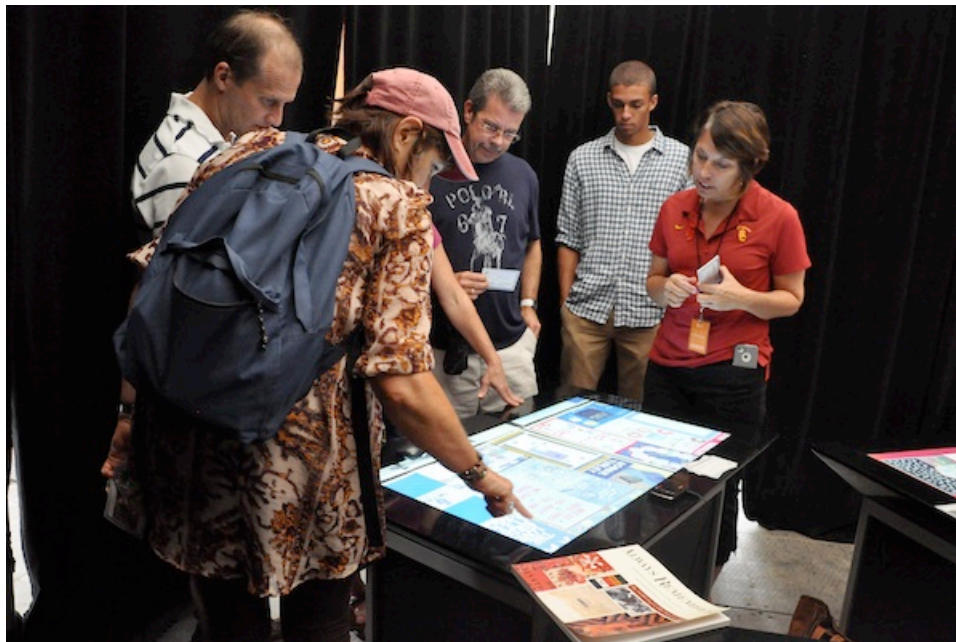


Image 2: Visitors to the Quilt 2012 interact with the AIDS Quilt Touch Table.

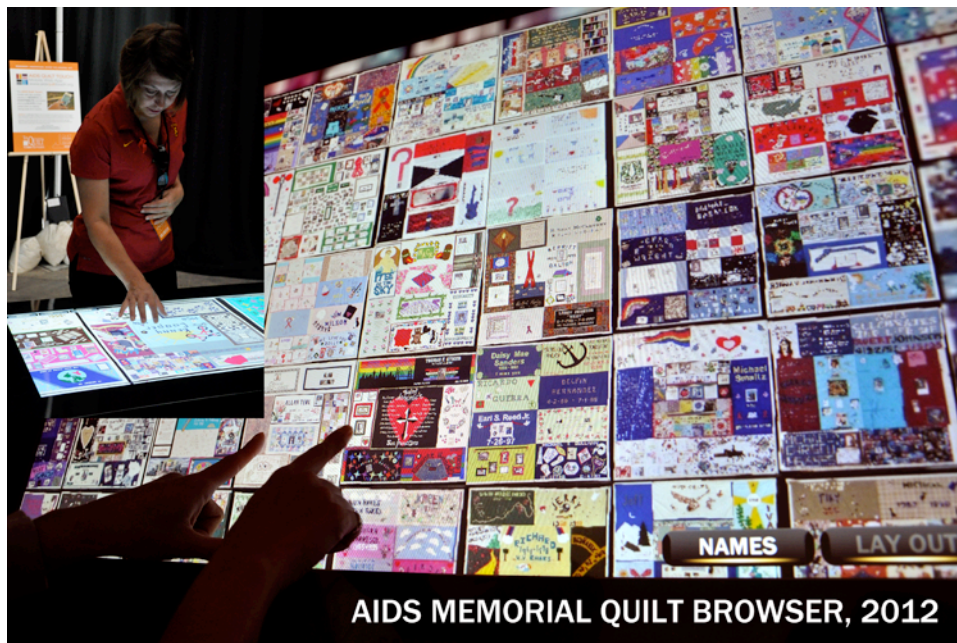


Image 3: Close-up of the AIDS Memorial Quilt Browser application.

During the course of Start-Up phase of the project, the scope of the effort expanded to include new collaborators and the creation of additional digital experiences based on the AIDS Quilt image and demographic data sets.

Through connections made by the NEH Office of Digital Humanities, the project came to the attention of the coordinator of Digital Humanities at Microsoft Research, who, in turn introduced it to Professor Andy Van Dam and his team from the Computer Science Program at Brown University. As a consequence, the Brown team became key collaborators in the production of the AIDS Quilt Touch Table when they agreed to create a customized image display and browser system for use with the AIDS Quilt image and demographic data sets. The interactive application was created within an environment called [LADS \(Large Artwork Display on the Surface\)](#)—a well-established research effort at Brown University supported by Microsoft Research that was designed to enable interaction with large-scale art works using what was originally Microsoft’s interactive table device. The Brown team had developed an LADS environment to create an interactive experience for viewing the famous Garibaldi Panorama—a single painting that measures 4.75 feet tall x 370 feet wide. LADS employs Microsoft’s DeepZoom technology to dynamically load portions of the digital image of the large artwork at different resolutions. The AIDS Quilt project offered the Brown team an opportunity to work with a different kind and much larger work of art—one that was comprised of 6000 digital images (quilt blocks) and measured more than 1.3 million square feet. Using LADS, viewers were able to contemplate the digital AIDS Quilt from different viewing perspectives ranging from a bird’s eye view of the entire quilt to a close-up view of a single panel.

As work on the interactive browser proceeded, the network of collaborators grew to include developers from Microsoft and researchers from other academic universities who joined the effort to work on additional applications. A second digital experience, The **AIDS Quilt**



**Touch Timeline** took the form of an interactive timeline of the histories of AIDS and of the AIDS Memorial Quilt (see Appendix 2). On this project, Balsamo and her USC team collaborated with geo-science researchers from the University of California at Berkeley on another Microsoft Research sponsored project called ChronoZoom.



Image 4: Brittany Farr and a young visitor tour the Touch Timeline of the History of AIDS/HIV at the Smithsonian Folklife Festival, 2012.

The third digital experience created for the Quilt 2012 events was developed by a team from the [Digital Studio for the Public Humanities at the University of Iowa](#), under the direction of artist Jon Winet and in collaboration with Dale MacDonald. With a very short development time (less than six weeks), the Iowa team created a beta-version of a mobile web app called **AIDS Quilt Touch** ([www.aidsquilttouch.org](http://www.aidsquilttouch.org)) that enables people to:

- **SEARCH** for a specific NAME on a Quilt panel;
- **CONTRIBUTE** comments to a Digital Guest Book; and
- **LOCATE** the display of a specific panel (when it was laid out on the National Mall in summer 2012) (See Appendix 3).





Image 5: Screen shot of AIDS Quilt Touch mobile web app launched for first time, June 27, 2012.

The AIDS Quilt Touch mobile web app launched on June 27, 2012. It is an open-source application that makes use of the most advanced protocols of responsive web design (RWD) to provide a platform-neutral viewing experience that enables users to navigate information with minimal efforts of resizing or scrolling of web pages. Accessible on a wide range of devices (computers, tablets, mobile phones), the AIDS Quilt Touch mobile web app makes use of newly emergent conventions of gesture-based interactivity. In the process of developing the app, the Iowa team created innovated approaches to address challenges of mobile web design.

The three **AIDS Quilt Touch** digital experiences were on display for most of the Quilt 2012 events at tents set up on the National Mall. Anne Balsamo and Dale MacDonald, and a team of graduate students from the University of Southern California, worked as “tech docents” to interact with members of the public to demonstrate the applications, and often to answer questions about the textile quilt and to help D.C. visitors find specific quilt panels ([www.facebook.com/Aidsquilttouch](http://www.facebook.com/Aidsquilttouch)).

One of the key lessons learned through these collaborations is that this project that began in the digital humanities—with its emphasis on the digital dissemination and preservation of an important piece of international cultural heritage—also raised interesting challenges for computer science and data visualization researchers, as well as digital archivists and community activists.

Support for the creation of these interactive experiences was initially provided by the National Endowment for the Humanities in 2010 through the Office of Digital Humanities’ Start-Up

Grant program. This initial funding enabled Balsamo and her team to raise additional support for the development of the other interactive experiences and to support the participation of USC graduate students in the Quilt 2012 events. Additional funding came from Microsoft Research (\$50,000), The University of Southern California (\$25,000), and an Indi-GoGo public campaign (\$11,000).

The Start-Up phase formally concluded in May 2012. The project was presented at the July 2012 Microsoft Faculty Research Summit. The next presentation is scheduled for SXSW in March 2013. But these academic presentations represent only one vector of dissemination about the project and its lessons. Both before and during the Quilt 2012 events, the AIDS Quilt Touch digital experiences received a significant amount of press coverage from various media venues including print publications, blog postings, and even a tweet from Bill Gate’s twitter account (see Appendix 4).

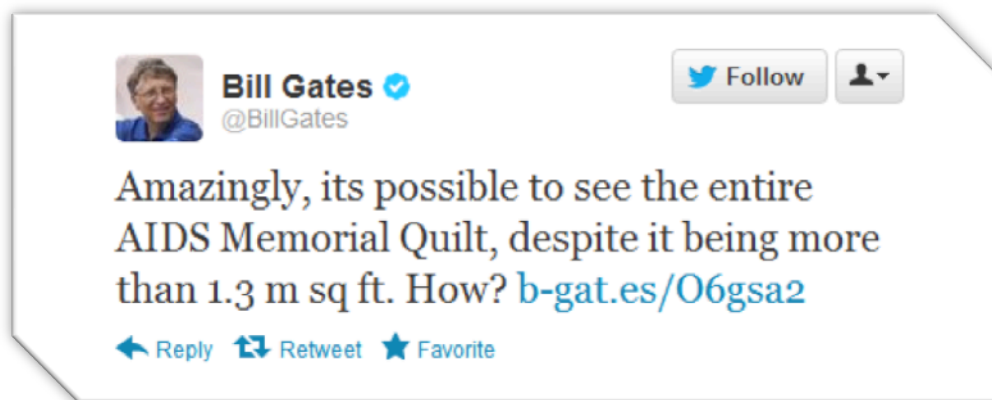


Image 6: Tweet about AIDS Quilt Touch from Bill Gates account on July 27, 2012.

Perhaps not surprisingly, it was an article in *The Chronicle of Higher Education* that most directly addressed the cultural significance of the creation of the **AIDS Quilt Touch** digital experiences by noting how these apps enabled enhanced public access to the textile Quilt. During the Quilt 2012 events, the USC team of tech docents often served as “digital quilt archaeologists” using the applications to find specific quilt panels, or in some cases to identify panels based on imprecise or incomplete information. Verbal feedback from visitors provided informal evidence that we had succeeded in meeting the basic objectives established for the Start-Up project: the apps indeed “augmented” people’s experience of the textile quilt. What we realized through these public encounters mediated by digital technologies is that what we had “prototyped” were not simply front-end applications for accessing a large database of digital images and metadata, but rather a socio-technical-cultural system for enhanced media engagement.

### Summary of Innovation

The Start-Up grant enabled the creation of three unique public interactives. Of these, the AIDS Quilt Touch mobile web app has shown the most promise to be used as a platform for the

development of a broader set of novel applications that will further developed and integrated into the original application:

- Two **“community” sourcing applications** that will enable visitors to 1) assist in annotating the key symbolic and demographic elements of specific panels, and 2) to contribute to the creation of a digital archive of stories about the creation of the AIDS Memorial Quilt.
- A **“zooming” image browsing function** that allows visitors to view the “virtual” Quilt from different altitudes. The actual size of the image of the “virtual Quilt” is more than 1.3 million square feet.
- A **parameter-based search application** that enables the display of different arrays of Quilt panels. This search application allows a visitor to recreate a “virtual Quilt” according to parameters such as geographic identity, date of birth, date of death, date of panel submission, gender, and age.

The results of the Start-Up grant will serve as the foundation for a future grant to the NEH Digital Humanities Implementation program. For that grant, we propose to create a complex, but well articulated media system—comprised of a mobile web app platform, new templates for the visualization of large datasets of material culture images, and protocols for engaging new participants—that enables broader participation in the dissemination, use, and creation of a robust digital archive collection. We seek to refine our understanding of the “citizen scholar”—the person who, by virtue of personal or professional interest, is motivated to contribute to the archiving and dissemination of digital cultural heritage. Additional collaborators will be engaged in the new effort, and the platform will be expanded for use with other archives of digital images of quilt collections.

## APPENDICES

### Appendix 1:

#### Description of Quilt Touch Table digital experience created for Quilt 2012

##### Quilt Touch Table

Interactive Browser for the AIDS Memorial Quilt

The QUILT TOUCH TABLE enables visitors

- View an image of the entire VIRTUAL Quilt comprised of 6000 BLOCKS that contains more than 48,000 individual panels;
- Search by NAME to view a digital image of a single Quilt panel;
- Select a single panel to read more information about the person(s) commemorated on the panel.
- Browse the entire collection of digital images by panning across images and zooming from one altitude of viewing (a bird's eye view) to another (a close-up of a single panel).
- Search and reorganize Quilt panel images according to specific key terms: location, age, dates.

##### PROTOTYPE for viewing on an IPAD

<http://quilt3.blob.core.windows.net/map/map.html>

## CREDITS

Concept Development and Interaction Design: Anne Balsamo and Dale MacDonald, and the Public Interactives Research Team at the University of Southern California.

**Public Interactives Research:** <http://www.designingculture.net/blog/?p=1009>

The AIDS Quilt Touch Table digital experience was built on the LADS platform (Large Artwork Display on the Surface) created by Professor of Computer Science, Andy van Dam and his team from the Brown University Graphics group (Alexander Hills, Michael Price, Yudi Fu, Maxwell Ashby, Yuting Chen, Inna Komarovsky).

**LADS @ Brown:** <http://www.cs.brown.edu/research/lads/>  
<http://www.cs.brown.edu/research/lads/index.html>

The application ran on the Samsung SUR-40 with Microsoft's PixelSense and was created with support from Microsoft Research.

**Microsoft participants:** Donald Brinkman, James Wren, Topper Cain.  
<http://research.microsoft.com/en-us/projects/aidsquilt/default.aspx>

## **Appendix 2:**

### **Description of Quilt Touch Timeline digital experience created for Quilt 2012**

#### **QUILT TOUCH TIMELINE**

History of AIDS & History of the AIDS Memorial Quilt

The TOUCH TIMELINE enables visitors to browse a visual record of key events marking the 30-year history of the AIDS pandemic and the 25-year history of the creation of the AIDS Memorial Quilt.

#### **CREDITS**

The TOUCH TIMELINE uses ChronoZoom: an open--source history project sponsored by Microsoft Research Connections. Timelines for the History of AIDS and the History of the AIDS Memorial Quilt were created in collaboration among researchers at the University of California at Berkeley, University of Moscow, and University of Southern California.

Microsoft Research: Rane Johnson, Michael Zyskowski  
U of California, Berkeley: Roland Saekow, Madison Allen,  
U of Southern California: Anne Balsamo, Lauren Fenton, Rosemary Comella.

<http://www.chronozoomproject.org/>

### **Appendix 3:**

#### **Description of AIDS Quilt Touch digital experience created for Quilt 2012**

The **AIDS QUILT TOUCH** mobile web app enables viewers to SEARCH, to CONTRIBUTE comments and to LOCATE a Quilt panel when on display during Quilt 2012 events.

[www.aidsquilttouch.org](http://www.aidsquilttouch.org)

[www.facebook.com/Aidsquilttouch](http://www.facebook.com/Aidsquilttouch)

#### **CREDITS**

The AIDS QUILT TOUCH mobile web application was created by the team from the University of Iowa's Digital Studio for Public Humanities, under the direction of Jon Winet, in collaboration with the NAMES Project Foundation in Atlanta, and the Public Interactives Research Team at the University of Southern California.

U of Iowa: Jon Winet, Mark NeuColins, Kelly Thompson, Nicole Dudley, Lauren Haldman, Kayla Haar

[dsph.uiowa.edu](http://dsph.uiowa.edu)

USC: Anne Balsamo, Dale MacDonald, Lauren Fenton, Rosemary Comella, Ioana Literat, Rohit, Brittany Farr, Andrew Schrock, Jennifer Taylor, Susana Bautista, Styles Akira

<http://www.designingculture.net/blog/?p=1009>



## **Appendix 4:**

### **List of Press mentions of the Quilt 2012 Digital Experiences and Bibliography**

#### ***National / International***

- Associated Press (which then got picked up by broadcast, print and online outlets, including *ABC.com*, *CNBC.com*, *CBS.com*, *Newsweek*, *US News & World Report*, *Business Week*, *Huffington Post*, *Yahoo News*, *Seattle Post Intelligencer*, *Newsday*, *Dallas Morning News*)
- *USA Today* (which then got picked up by daily newspapers, including *Washington Post* and *Detroit Free Press*)
- *Reuters TV* (fed to Reuters bureaus nationally and around the world)
- *CNN Radio*
- *Science*
- *Wired*

#### ***DC-regional media***

- *Washington Post*
- *Washington Blade*
- *Washington Post Express* (separate weekly tabloid)
- NBC affiliate WRC-TV
- WTOP Radio
- *Metro Weekly*
- *Iowa City Press-Citizen*
- *San Jose Mercury News*

#### ***Online***

- *The Atlantic Wire*
- *Salon*
- *Forbes* online
- *TechCrunch*
- *Next@Microsoft*
- *BizBash.com*
- *Edge on the Net*
- *thebody.com*
- *AIDS.gov* (HHS)

## Appendix 5:

### AIDS Quilt Touch Press Mentions: Bibliography

- “AIDS Memorial Quilt Goes Digital with New App – WTOP.” *GreenLife*. Overhears.com, n.d. Web. 7 Jan. 2013.
- “AIDS Memorial Quilt Goes Digital with New App – WTOP.com.” *OrganizedWisdom*. OrganizedWisdom.com, 2012. Web. 7 Jan. 2013.
- “AIDS Memorial Quilt Goes Digital with New App.” *Viesearch*. Viesearch, 2013. Web. 7 Jan. 2013.
- “AIDS Quilt: A Labor of Love for 25 Years.” *Thebody.com*. Remedy Health Media LLC, n.d. Web. 5 Jan. 2013.
- “The AIDS Quilt Interactive: Touching 1.3 Million Square Feet.” *San Jose Museum of Quilts & Textiles*. San Jose Museum of Quilts & Textiles, 2012. Web. 5 Jan. 2013.
- “AIDS Quilt Turns 25.” Narr. Jim Ribble. *CastRoller*. CastRoller, 2012. Web. 5 Jan. 2013.
- Andresen, Kelli. “Creating Worldwide Access.” UI Team Works to Develop a Mobile Web App for the 25<sup>th</sup> Anniversary of the AIDS Memorial Quilt.” *Iowa Now*. The University of Iowa, 2011. Web. 2013. 7 Jan. 2013.
- Balsamo, Anne, et al. *Big Heritage, Big Quilts, and Big Canvases*. 17 July 2012. Microsoft Research, Microsoft Corporation. MPEG-4 file.
- “Balsamo and Team Create Digital Experiences for 2012 AIDS Memorial Quilt.” *USC Annenberg*. University of Southern California, 2013. Web. 5 Jan. 2013.
- Basu, Moni. “On 25<sup>th</sup> Anniversary, a Quilt Displays an American Tragedy.” *In America*. CNN, Turner Broadcasting System Inc., 2012. Web. 7 Jan. 2013.
- Biggs, John. “The AIDS Quilt, Digitized: Microsoft and the NAMES Project Team Up to Bring Remembrance Project Into the 21<sup>st</sup> Century.” *TechCrunch*. AOL Inc., 2013. Web. 5 Jan. 2013.
- Blue, Violet. “Silicon Valley Fails the AIDS Memorial Quilt”. *SFAppeal.com*. Appeal Media LLC, 2012. Web. 5 Jan. 2013.
- Chen, Angela. “Researchers Digitize AIDS Quilt to Make It a Research Tool.” *Chronicle.com*. The Chronicle of Higher Education, 2013. Web. 5 Jan. 2013.
- Chen, Angela. “Researchers Digitize AIDS Quilt to Make It a Research Tool.” *Communications of the ACM*. ACM, 2013. Web. 7 Jan. 2013.
- Clayton, Steve. “23 Acre AIDS Memorial Quilt Goes Digital.” *Next at Microsoft*. Microsoft Corporation, 2013. Web. 5 Jan. 2013.
- Dangdatkat. “Pizarro: Interactive AIDS Quilt Exhibit Coming to San Jose Museum of Quilts ...” *San Jose Local Me.me*. San Jose Local Me.me, 2013. Web. 7 Jan. 2013.
- Davis, Ryan. “TECHstyle Art Biennial and AIDS Quilt Interactive Exhibitions.” *Examiner*. Clarity Digital Group LLC, 2006-2013. Web. 7 Jan. 2013.
- Fader, Linda. “Microsoft Creates Online Version of the Massive AIDS Memorial Quilt.” *Wired.com*. Condé Nast, 2013. Web. 5 Jan. 2013.
- “First Glimpse of the AIDS Memorial Quilt in Washington This Week.” *Blog.AIDS.gov*. USA.gov, n.d. Web. 7 Jan. 2013.
- Gates, Bill. Twitter Comment. *Twitter*. Twitter, 2013. Web. 1:45 PM - 27 Jul 12.
- Gonzalez, Erika. “AIDS Quilt on Display on National Mall.” *NBC Washington*. NBC Universal Inc., 2013. Web. 7 Jan. 2013.

Hukku, Sanjay. "Digitizing the Names Project Memorial Quilt". *Townsend Humanities Lab*. The University of California, n.d. Web. 5 Jan. 2013.

KMVT. "Present!" I.T.A.B. and AIDS Quilt Interactive at the San Jose Museum of Quilts and Textiles." *Youtube*. Youtube, 2013. Web. 7 Jan. 2013.

Kozlowski, Lori. "Digital Arts: Virtually Stitching the AIDS Memorial Quilt." *Forbes.com*. Forbes.com LLC, 2013. Web. 5 Jan. 2013.

Lavers, Michael K. "AIDS Memorial Quilt Returning to D.C." *Washingtonblade.com*. Brown, Naff, Pitts Omnimedia, Inc., 2013. Web. 5 Jan. 2013.

"Live Video Chat: AIDS Memorial Quilt." *National Capital Planning Commission*. USA.gov, n.d. Web. 5 Jan. 2013.

Maher, Kathleen. "Ma meet Pa: Exhibition Explores the intersection Between Craft, Art, and Technology." *Gfxspeak.com*. Graphic Speak, 2012. Web. 5 Jan. 2013.

Melanie. "AIDS Quilt Touch Application." *Daily Kos*. Kos Media, LLC, n.d. Web. 5 Jan. 2013.

Miller, Shauna. "Stiching AIDS History" *Readexpress.com*. The Washington Post Company, 2013. Web. 8 Jan. 2013.

Moore, Sherry, et al. "The AIDS Memorial Quilt Turns 25." *The Take Away*. WNYC Radio, 2013. Web. 9 Jan. 2013.

Moyer, Steve. "Quilty Table." *National Endowment for the Humanities*. Humanities, 2012: 33. Web. 5 Jan. 2013.

Names Project Foundation "The AIDS Memorial Quilt's Call to Strive for 'The Last One' Reverberates Across the Nation's Capital, July 21-25" *prnewswire.com*. PR Newswire Association LLC, 2013. Web. 9 Jan. 2013.

Neergaard, Lauren. "2012 International AIDS Conference Starts in D.C.' Photos." *Huffingtonpost.com*. TheHuffingtonPost.com Inc., 2013. Web. 8 Jan. 2013.

Painter, Kim. "AIDS Memorial Quilt Marks 25 Years with Display in D.C." *USAtoday.com*. USA Today, a division of Gannett Co. Inc., 2012. Web. 5 Jan. 2013.

Parnass, Sarah. "High-Tech Way to Explore, Share About AIDS Quilt." *The Big Story*. Associated Press, 2013. Web. 7 Jan. 2013.

Parnass, Sarah. "High-tech Way to Explore, Share About AIDS Quilt." *Businessweek.com*. Bloomberg L.P., 2013. Web. 9 Jan. 2013.

Parnass, Sarah. "AIDS Memorial Quilt Returns to National Mall, App Lets Users Explore Tribute." *Huffingtonpost.com*. TheHuffingtonPost.com Inc., 2013. Web. 5 Jan. 2013.

Parnass, Sarah. "High-tech Way to Explore, Share About AIDS Quilt" *Yahoo!*. Yahoo! Inc., 2013. Web. 8 Jan. 2013.

Petenbrink, Troy. "The AIDS Memorial Quilt Returns to D.C.' This Time with an App." *Edgeonthenet.com*. EDGE Publications Inc., 2013. Web. 8 Jan. 2013.

"The Quilt with a Digital Touch." *Iowa Now*. The University of Iowa, 2011. Web. 2013. 7 Jan. 2013.

"Researchers Digitize AIDS Quilt to Make It a Research Tool." *Lis Trends*. Awesome Inc., n.d. Web. 5 Jan. 2013.

"Researchers Digitize AIDS Quilt to Make It a Research Tool." *LISNews: Librarian News*. n.p., n.d. Web. 7 Jan. 2013.

Riley, John. "AIDS Quilt's Double Duty." *Metroweekly.com*. Jansi LLC, 2013. Web. 5 Jan. 2013.

- Rosen, Rebecca J. "A Map of loss: The AIDS Quilt Goes Online". *Theatlantic.com*. Atlantic Media Company, n.d. Web. 5 Jan. 2013.
- Rosen, Rebecca J. "A Map of Loss' The AIDS Quilt Goes Online." *Yahoo!*. Yahoo! Inc., 2013. Web. 8 Jan. 2013.
- Rosenbaum, Matthew. "AIDS Quilt Goes Digital: See the Full Quilt Online." *ABCnews.go.com*. ABC News, 2013. Web. 5 Jan. 2013.
- Shryock, R. "Brining AIDS Quilt's Lost Lives to Life With Technology." *Freep.com*. [www.freep.com](http://www.freep.com), 2013. Web. 8 Jan. 2013.
- Sorrells, Mitra. "Technology Helps People Experience AIDS Quilt in Person and Online." *Bizbash.com*. BizBash, 2013. Web. 5 Jan. 2013.
- Stabile, Michael. "Can AIDS Activism Battle the Tea Party?" *Salon.com*. Salon Media Group Inc., 2012. Web. 5 Jan. 2013.
- Stern, Emily. "AIDS Memorial Quilt Goes Digital with New App." *WTOP 103.5 FM*. WTOP, 2013. Web. 5 Jan. 2013.
- Sullivan, Andrew. "The AIDS Quilt is Now Online." *The Daily Beast*. The Newsweek / Daily Beast Company LLC, 2008-11. Web. 8 Jan. 2013.
- Taylor, Jennifer. "AIDS Quilt Touch Mobile Web App." *Vimeo*. Vimeo LLC, 2013. Web. 7 Jan. 2013.
- Thinkman. "Hello Reddit, I Have Spent the Last Three Months Working With Universities Around the U.S. to Raise Awareness About HIV/AIDS. It is Really Hard to Get the Word Out. Can You Help?" *Reddit*. Reddit Inc., 2013. Web. 5 Jan. 2013.
- Thinkman. "HTML5 Timeline of the AIDS/HIV and the AIDS Quilt Released Today. The Timeline Code is Open Source!" *Reddit*. Reddit Inc., 2013. Web. 5 Jan. 2013.
- Thinkman. "View 1.3 Million Square Feet of the AIDS Quilt in the Palm of Your Hand. HTML5 Deepzoom of the Quilt Works on Almost Any Device!" *Reddit*. Reddit Inc., 2013. Web. 5 Jan. 2013.
- "A Touching Tribute." *Science Magazine* 27 July 2012: 337. Print.
- Towle, Andy. "The AIDS Memorial Quilt is Now Online." *Towleroad*. Towleroad, n.d. Web. 5 Jan. 2013.
- "UI Digital Studio for Public Humanities Launches AIDS Quilt Touch." *Iowa Now*. The University of Iowa, 2011. Web. 2013. 7 Jan. 2013.
- "University of Iowa Team Bringing New Meaning to AIDS Quilt." *KGAN-TV CBS 2 Iowa*. KGAN-TV, 2012. Web. 8 Jan. 2013.
- Webster, Andrew. "Microsoft Creates Online Version of Sprawling AIDS Memorial Quilt." *The Verge*. Vox Media Inc., 2013. Web. 5 Jan. 2013.
- Weststarland. "UI Team Develops App for AIDS Quilt' Iowa City Press Citizen." *Closing the Gap*. Tumblr, n.d. Web. 8 Jan. 2013.